

REMARKS/ARGUMENTS

The title has been amended in the manner suggested by the Examiner.

The claims have been amended in an effort to define the disclosed subject matter more clearly. Amended claim 6 is respectfully submitted to include all limitations of claim 4, which depended on claim 1 and was originally allowed by the Examiner.

Claims 5 and 6 are respectfully submitted neither to be clearly anticipated under 35 U.S.C. 102(b) by Hakala et al, cited, nor to be obvious therefrom.

Hakala et al disclose a convention frequency converter circuit for controlling a synchronous motor, as described in col. 2, lines 22-47. For braking, Hakala et al provide braking resistor 60, which has a non-linear voltage-current characteristic (col. 2, line 48, to col. 3, line 30). As pointed out in col. 2, lines 59-61, a resistor is used in which a rise in temperature increases its resistance in the operating range. For braking, switch 64 is used to short braking resistor 60 and diodes 52-57 to obtain a desired braking torque.

Nothing in the patent suggests a power converter connected to the armature windings and comprising a half-bridge for positive current half-waves and a half-bridge for negative current half-waves, the half-bridges being switchable by power breakers which short the armature windings, **wherein the power breakers are alternately controllable by a control device regulating the short-circuit current by a pulse-width modulation depending on the difference between a set value of the braking moment and an actual value of the short-circuit current.**

Thus, in a manner not suggested by the prior art, **both** half-bridges are actively controlled short-circuiting elements used for braking. The advantages of this arrangement have been outlined on pages 3 and 4 of the specification. The arrangement assures much better thermal conditions. The short-circuit current is regulated by a pulse-width modulation to obtain the desired braking moment. Nothing in the prior art suggests this.

Hakala et al short-circuits the motor windings over a common non-linear resistor and provides no further regulation of the individual short-circuit currents in the windings. In contrast to this, applicants' claimed apparatus does **not** require a braking resistor since braking is achieved by the

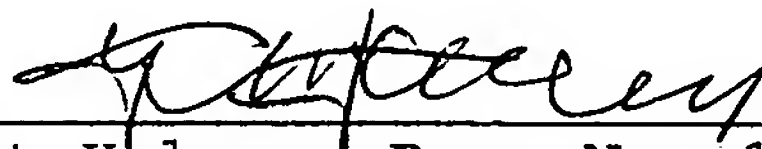
alternating short-circuiting of the armature windings by the power breakers of the half-bridges of the power converter. The provision of a braking resistor is **optional** in applicants' apparatus. While Hakala et al's brake control is effected by switching the braking resistor on or off, applicants provide a closed control circuit which enables the braking moment to be regulated within a wide range.

In view of the above, claims 5 and 6 are respectfully submitted clearly to be patentable.

A petition for a one-month extension is enclosed.

A sincere effort having been made to overcome all grounds of rejection, favorable reconsideration and allowance of claims 5 and 6 are respectfully solicited.

Respectfully submitted,
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I hereby certify that this correspondence is being deposited with the United States Postal Service as express mail in an envelope addressed to: MAIL STOP RCE, COMMISSIONER FOR PATENTS, P.O. Box 1450, Alexandria, VA 22313-1450, on December 27, 2007.



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